

MATEL, ILIE

Math

A new dye from *m*-aminophenol. Ilie Matei and Elena
Cocca. *Bul. inst. polich. lasi* 1, No. 7-8, 101-5 (1955).
A new black dye was prepd. by heating a mixt. of *m*-amino-
phenol, S, and H_2SO_4 (d. = 1.84). It dyes rayon dark-blue,
cotton gray-blue, and wool gray-blue. The formula $C_{10}H_9NO_2S$
was proposed and the name of *m*-Aminophenol
Martha Arcos

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RUMANIA/Chemical Technology - Chemical Products and Their
Application, Part 3. - Industrial Synthesis
of Dyes.

H-16

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 47735
Author : Ilie Matei, Elena Cacca, Maria Tutoveanu
Inst : Academy of Sciences of Rumania, Jassi Branch.
Title : To the Question of Conversions and Structural Regrouping
of Nitroderivatives. Report 1. Dyes of o- and n-Nitro-
phenol.
Orig Pub : Studii si cercetari stiint. Acad. RPR Fil. Iasi. Chim.,
1956, 7, No 1, 215-222.
Abstract : When heated with concentrated H_2SO_4 , o- and n-nitrophe-
noles are subject to conversions and regrouping similar
to those occurring at naphthazarine formation of 1,5-di-
nitronaphthalene and polyoxyathraquinone formation of

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APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001032820009-6"

water and reaction end, o-nitrophenol, which has not
participated in the reaction, is distilled off with
steam, and a precipitate is separated by diluting the
residue with water, the precipitate is extracted with
water and alcohol in order to eliminate the admixtures
after which it is dissolved in NaOH solution, and 3.5
g of 2,4,5,4'-tetraoxy-2'-oxo-5'-oximinodiphenyl (I)

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RUMANIA/Chemical Technology - Chemical Products and Their
Application, Part 3. - Industrial Synthesis
of Dyes.

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 47735

is separated by acidifying with CH_3COOH . A mixture
of 5 g of n-nitrophenol, 6 g of $ZnCl_2$ and 3 ml of
glacial CH_3COOH is heated about an hour at 190° , the
precipitate is separated by diluting the mixture with
cold water, the precipitate is filtered off, washed
with water in order to eliminate $ZnCl_2$ and n-nitrophe-
nol, which has not taken part in the reaction, and 3
g of I is obtained.

Card 3/3

Matel, I. Sur les espaces à connexion affine A_2 admettant le groupe orthogonal ou pseudo-orthogonal de transformations de congruences. Bul. Inst. Politehn. București 18 (1956), no. 3-4, 139-143. (Romanian, Russian and French summaries)

Supported by the work of V. Dumitras [Acad. R. P. Romine. Stud. Cerc. Mat. 4 (1953), 213-232; MR 16, 71] it is shown that the necessary and sufficient conditions that the A_2 admit the orthogonal group $ds^1 = \cos \theta ds^1 + \sin \theta ds^2$, $ds^2 = -\sin \theta ds^1 + \cos \theta ds^2$, or the pseudo-orthogonal group $ds^1 = \cosh \theta ds^1 + \sinh \theta ds^2$, $ds^2 = \sinh \theta ds^1 + \cosh \theta ds^2$, is that the form $\varphi = \gamma_{ab} ds^a ds^b$ be non-degenerated and that the form $f = r_{ab} ds^a ds^b$ be zero. A canonical form of the connection is derived.

D. I. Struik (Cambridge, Mass.)

Country : Rumania

5-29

Doc. Jour. :

47822

Author : Matei, I.; Cocea, E.; Grigoras, M.; *

Institut. : Iasi Polytechnic Institute

Title : Resins for Plastics and Lacquers Derived from Phenols of Beech Tar.

Orig. Pub. : Bul. Inst. politehn. Iasi, 1957, 3, No 1-2, 67-76

Abstract : Beech tar contains ~ 5% creosote (I). Resins of good quality for use in pressure molded materials were obtained on substituting I for 50-90% of the phenol (II) in resol phenol-formaldehyde resin. On replacing 50-60% of II by I the resulting casting resins do not differ from the phenolic; on replacement of 70-80% of II the resins are harder and are not readily workable by mechanical treatment. From I were also prepared oil-modified lacquer resins soluble in benzene and turpentine, which show good adhesion to wood and metal, and also electric insulating properties.
L. Pesin.

Card:

of 2,4,2',4'-tetraoxy-5,5'-dinitrodiphenyl-3,3'-

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RUMANIA / Chemical Technology. Chemical Products and H
 Their Application. Industrial Synthesis of
 Dyes.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 52423.

Abstract: disulfoacid (acid - II), 2,3,4,2',4'-pentaoxy-
 5-amino-5'-hydroxylaminodiphenyl-3'-sulfoacid
 (III) and 2,3,4,2',3',4'-hexaoxy-5-hydroxylam-
 ino-5'-nitroso-phenyl (IV). III is an acid
 dye for wool fibers; IV is a vat dye for cotton
 fibers and regenerated cellulose. The mechanism
 of the originating reactions was analyzed. Five
 g. of I are dissolved, in the cold state, in 5
 ml. of 100% H₂SO₄; at less than 20°, and a sol-
 ution of 2.5 g. of S in 20% oleum is added; when
 the test for neutralization with CaCO₃ turns a
 yellowish-green color, the reaction terminates,
 the mass is poured on ice, and S is filtered off.

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RUM.L.L. / Chemical Technology. Chemical Products and H
Their Application. Industrial Synthesis of
Dyes.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 32423.

Abstract: obtained. Four g. of I and 1 g. of S are dis-
solved in 6 ml. of 20% oleum, heated for 1 hour
at 125-130° and for 2.5-3 hours at 135-140°;
when cooled, the mass is poured on ice, filter-
ed and rinsed with hot water; the residue is
dissolved in 2 n.NaOH and, by neutralizing the
filtrate with HCl (acid), 2,8 g. of IV are ob-
tained. For report I, see RZhkhim, 1958, 47735.
-- V. Ufimtsev.

Card 4/4

COUNTRY : Rumania H-16
 CATEGORY : Chemical Technology. Chemical Products and Their
 Applications--Industrial synthesis of dyes
 ABS. JOUR. : *AKHIM.*, no. 21 1957, no. 75739
 AUTHOR : Matci, I. and Dorca, E.
 : Rumanian Academy of Sciences
 TITLE : Study of the Reactions and Structural Rearrange-
 ments of Nitro Derivatives. Part III. Dyes from
 Nitrobenzene.
 ORIG. PUB. : *Studii si Cercetari Stiint Acad RPR Fil Iasi*
Chim, 3, no 1, 141-150 (1957)
 ABSTRACT : $C_6H_5NO_2$, on heating to about 100° with oleum and
 S, undergoes the same reactions and rearrangements
 as more complicated nitro compounds. Such be-
 havior may well be characteristic of all aromatic
 nitro compounds. In the investigation of reac-
 tions of this type, the authors have isolated
 2,2'-dihydroxy-5-amino-5'-nitrosodiphenyl-3,3'-
 disulfonic acid (I) and the tautomeric 2-hydroxy-
 5-amino-2'-oxo-5'-hydroxyaminodiphenyl-3,3'-
 disulfonic acid, the latter in the form of its

CARD: 1/4

COUNTRY : Rumania 1-10
 CAPTION :
 ABST. JOUR. : RECHIM., No. 21 1959, No. 25739
 AUTHOR :
 INST. :
 TITLE :
 ORIG. PUB. :
 ABSTRACT : Ca, Ba, CaNa, and BaNa-salts. Wool fibers in an acid bath are dyed brown on treatment with I; on treatment with FeSO₄ the color changes to dark brown or black. When the reaction mixture is heated to higher temperatures, a dye is obtained which colors cotton and viscose fibers gray in alkaline baths in the presence of Na₂S₂O₄ or Na₂S. The colors obtained are resistant to abrasion, light, and acids. A suspension of 10 gms powdered S in 20 gms C₆H₅NO₂ is treated

CARD: 2/4

210

COUNTRY	:	Rumania	H-16
CATEGORY	:		
ABS. JOUR.	:	AZKhim., No. 21	1950, No. 75739
AUTHOR	:		
INDI.	:		
TITLE	:		
ORIG. PUB.	:		
ABSTRACT	:	<p>with 60 ml 20% oleum at temperatures below 50-60° and with stirring; at the completion of the exothermic reaction, the mixture is stirred at 106-107° until no further clouding of samples is observed on dilution with water, after which the mixture is cooled, poured into a mixture of ice and water, neutralized with chalk, the gypsum is filtered and rinsed, the filtrate is evaporated over a water bath to a small volume (the gypsum which precipitates is filtered off 2 or 3 times).</p>	
CARD:		3/4	

MATEI, Ilie; MARCULESCU, Cristineta

Xanthin derivatives. Studii chimie Iasi 10 no.1:47-54 '59.

(REAI 9:5)

1. Filiala Iasi a Academiei Republicii Populare Romine.
(Xanthine)

CARACULACU, A.; MARCULESCU, Cr.; PETRUS, A.; COCEA, E.; MATEI, Ilie, prof.

Contributions to the mechanism of the oxidation of p-nitrotoluene.
Studii chimie Iasi 10 no.2:247-260 '59. (EEAI 10:1)

1. Academia Republicii Populare Romine, Filiala Iasi; Institutul de
Chimie "Petru Poni." 2. Membru correspondent al Academiei Republicii
Populare Romine. Redactor responsabil, Studii si cercetari
stiintifice, Chimie (for Matei)
(Nitrotoluene)

COCEA, Elena; CARACULACU, A.; MARCULESCU, Cristineta; PETRUS, Alla; MATEI, Ilie, prof.

Synthesis of the 4,4-dibenzyl diisocyanate. Studii chimie Iasi 10
no.2:261-269 '59. (EEAI 10:1)

1. Academia Republicii Populare Romine, Filiala Iasi; Institutul
de Chimie "Petru Poni." 2. Membru correspondent at Academiei
Republicii Populare Romine. Redactor responsabil, Studii si
cervetari stiintifice Chimie (for Matei)
(Benzyl group) (Diisocyanates)

MATEI, Ilie, prof.; LIXANDRU, T.; COMANITA, E.

Mechanism of the condensation reaction of acenaphthenequinone with p-aminophenol in the presence of certain complexing salts; ZnCl_2 , CdCl_2 , NiCl_2 , CoCl_2 . Studii chim Iasi 11 no.2:281-289 '60.

1. Catedra de Tehnologie subst. organice, Institutul Politehnic Iasi. 2. Comitetul de redactie, "Studii si cercetari stiintifice, chimie" (Academia R.P.R., Filiala Iasi), redactor responsabil; membru corespondent al Academiei R.P.R. (for Matei).

(Condensation, Chemical) (Salts)

MATEI, Ilie, prof.; COCEA, Elena; CARACULACU, Adrian; PETRUS, Alla

Polyurethanic caoutchouc on the basis of 4,4-dibenzyl diisocyanate.
Informative note. Studii chim Iasi 11 no.2:379 '60.

1. Academia Republicii Populare Romine, Filiala Iasi, Institutul de chimie "Petru Poni," Sectia chimie organica. 2. Membru corespondent al Academiei Republicii Populare Romine; Comitetul de redactie, "Studii si cercetari stiintifice, chimie" (Academia Republicii Populare Romine, Filiala Iasi), redactor responsabil (for Matei).

(Rubber) (Diisocyanates)

TEXT: The mechanism whereby 4,4'-diisocyanate of dibenzene is formed and the tests needed to obtain polyurethane rubbers from it have already been published (see RZhKhim, 1961, 10Zh118, 13L49). Now the same diisocyanate has been used to make polyurethane foams with various properties.
[Abstracter's note: Complete translation.]

MATEI, Ilie, prof.; COCEA, Elena; CARACULACU, Adrian; PETRUS, Alla

Some theoretical considerations on the polyurethane rubber
based on 4,4'-dibenzylisocyanate. Studii chim Iasi 13
no.1:109-113 '62.

1. Membru corespondent al Academiei R.P.R., membru al Comite-
tului de redactie si redactor responsabil, "Studii si cercetari
stiintifice, Chimie" - Filiala Iasi. (for Matei).

MATEI, Ilie; COCEA, Elena [deceased]; PETRUS, Alla

Syntheses of polyurethaneic elastomers, initial and intermediary products. Pts. 5-6. Studii chim Iasi 13 no.2:231-251 '62.

1. Membru corespondent al Academiei R.P.R. (for Matei).
2. Academia R.P.R. Filiala Iasi, Institutul de Chimie "Petru Poni" Iasi, Sectia de chimie organica.

MATEI, Ilie; COCEA, Elena [deceased]; PETRUS, Alla

Syntheses of polyurethan elastomers of initial and intermediate products. Pt. 7. Studii chim Iasi 14 no.1:113-122 '63.

1. Academia R.P.R. Filiala Iasi, Institutul de chimie "P.Poni", Sectia de chimie organica. 2. Membru corespondent al Academiei R.P.R. (for Matei).

COCEA, El. [deceased]; STOICESCU-CRIVAT, L.; PETRUS, A.; MANDASESCU, L.
MATEI, I.

Aryl aliphatic diisocyanates. Studii chim Iasi 14 no. 2:213-
219 '63.

1. Section of Organic Chemistry, "Petru Poni" Institute of
Chemistry and Physics, Rumanian Academy, Iasi Branch.
2. Corresponding Member of the Rumanian Academy (for Matei).

ACCESSION NR: AP4016000

R/0003/63/014/11/0632/0638

AUTHOR: Matel, I.; Petrus, Alla

TITLE: Some results in the preparation of polyurethane rubbers

SOURCE: Revista de chimie, v. 14, no. 11-12, 1963, 632-638

TOPIC TAGS: polyurethane, rubber, polymer, elastomer, isocyanate, polyester, polyether, tire material, diisocyanate, fosgene, 2,4-toluenediisocyanate, 2,6-toluenediisocyanate, 4,4'-diphenylmethanediisocyanate, ethyleneoxide, cross-linking, adipic acid, ethyleneglycol, propyleneglycol, kinetic study, molecular weight measurement, 4,4'-diaminodibenzyl, 4,4'-dinitrodibenzyl 4,4'-dibenzylidiisocyanate

ABSTRACT: Polyurethane polymers have found a wide variety of application due to their remarkable properties. Their production has increased from 26,700 tons in 1960 to 52,000 tons in 1961 and are estimated 453,000 tons/year will be reached by 1970. Polyurethane rubbers are substantially superior to other hydrocarbon polymers or copolymers used as tire materials. Thus hydrocarbon tires have an average performance of 80,000 km., whereas polyurethane tires surpass easily 300,000 km. on the road. Polyurethane elastomers are prepared from

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polyisocyanates and hydroxyl containing polymers such as polyesters, polyethers or polyesteramides. Polyfunctional isocyanates are prepared from amine hydrochlorides in reaction with phosgene above 100C in inert solvents. The following diisocyanates are used mostly for rubbers: mixtures of 2,4- and 2,6-toluene-diisocyanate (desmodur-T), 4,4'-diphenylmethanediisocyanate (desmodur-44), 1,5-naphthalenediisocyanate (desmodur-15) and 4,4'-dibenzylidiisocyanate. The polyesters, polyethers, polythioethers or polyacetals used in rubber preparation with diisocyanates have two or more terminal hydroxyl groups, a molecular weight between 1,000 and 5,000 and are dehydrated to approximately 0.01% water. Polyesters with hydroxyl end-groups are usually obtained by polymerization of epoxides such as ethyleneoxide and propyleneoxide or tetrahydrofuran. The preparation of polyurethane rubbers takes place in three steps. The first step is performed industrially in mixers, under inert atmosphere at 100-120C when an excess of diisocyanate reacts with a linear polyester. In the second step the polyesterurethane reacts with small amounts of crosslinking agents (water, diamines or glycols) such as to leave some of the isocyanate groups unreacted. The third step is not technologically separated from the second and is the thermal vulcanisation, when the remaining isocyanate groups react with the urea formed on addition of water, diamine or glycol. The product is a

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polyurethane elastomer, crosslinked, insoluble and with superior physico-mechanical properties. Research in the polyurethanes field in our country has first started at the "Petru Poni" Chemical Institute in Iasi, affiliated with the Rumanian Academy. The research work has been directed toward the preparation of a rubber with new structure and superior quality as well as kinetic and mechanism studies regarding the polyaddition reaction, the diisocyanate reactivity as function of their chemical structure, etc. Theoretical and economical reasons have directed us toward the use of 4,4'-dibenzylideneisocyanate, which is prepared from technical grade p-nitrotoluene by oxidation to 4,4'-dinitrodibenzyl, reduced then to 4,4'-diaminodibenzyl which in turn is reacted with fosgene to 4,4'-dibenzylideneisocyanate. The laboratory procedure gives a 88% yield in pure product, and the overall reaction time does not exceed 100 minutes. This diisocyanate has a very favorable structure for the synthesis of high quality polyurethane elastomers. The stress resistance of the rubber is 305 kg/cm², elongation 860% and remanent deformation only 17%. The mechanism studies on the polyaddition reaction (polyesters added to diisocyanates) showed that the carbonyl group in the isocyanate is polarized to form a carbonium ion, to which the alcohol is added, followed by the migration of the mobile hydrogen atom from oxygen to nitrogen, resulting in a tautomeric urethane. When difunctional isocyanates and alcohols are used, long chains are formed

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ACCESSION NR: AP4016000

analogous to a copolymerization process. The rate of the polyaddition reaction can be significantly increased by addition of catalytic amounts of tertiary amines. Kinetic studies in molten mixtures of 4,4'-dibenzoyldiisocyanate and polyesters (2,200-2,300 molecular weight, 70% adipic acid - ethyleneglycol polyester and 30% adipic acid--1,2 propyleneglycol polyester) have been carried out, using variable amounts of excess diisocyanate, under dry nitrogen atmosphere, at 100±1°C. The extent reaction was controlled by analysis of isocyanate groups and molecular weight determinations. The data are interpreted in terms of mobility, viscosity, concentrations and chain length. A number of observations are derived relating the polyaddition process and the product to the variable factors such as concentrations, ratios, time, temperature. Thus, the first step of the reaction does not exceed two hours. Changes in the ratio of diisocyanate to polyester lead to different molecular weights for the polyurethane obtained in the first step which in turn controls the degree of cross-linking in the following two steps. A wide variety of rubber products having different physical and mechanical properties can be obtained from the same diisocyanate and polyester by changing their ratio. Based on the results obtained at "Petru Poni" Institute, the Ministry of Petroleum and Chemical Industry has decided to expand this research on an industrial scale at

Card 4/5

ACCESSION NR: AP4016000

Borzesti Chemical Complex.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 03Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 005

OTHER: 019

Card 5/5

MANDASCU, Laura; 1974; 1974; 1974, 1.

synthesis of polyurethane elastomers, starting materials and intermediates. 1974. Rev. Roum. Chim. 9 no. 9/9:49-496 pp-3 104.

1. "Petroleum Institute" Chemistry, Bucharest Academy, Inst. Branch.

MATEI, I.; MANULESCU, G.

Synthesis of polyurethane elastomers, starting materials and intermediates. It. 10. Rev chimie Roum 9 no.8/9:501-504 Ag-5 1964.

1. "Petru Poni" Institute of Chemistry, Rumanian Academy, Iasi Branch.

MANDAS, L. M.; LAURU, R. D.; ALIU, A.; KATU, I.

Syntheses of polyurethan elastomers of starting and intermediary products. II. I. Studiile cerc. 13 no. 4:539-547. Apr. 1964.

1. "Petru Poni" Institute of Chemistry, of the Romanian Academy, Iasi branch, 41 A Aldea Grigore Ghen Voda.

Author: B. N. N. N. N.

Synthesis of polyurethane elastomers of starting and intermediary
monomers. 1. 10. Studii cerc chim 13 no. 8/9: 549-552 Ag-S 1964.

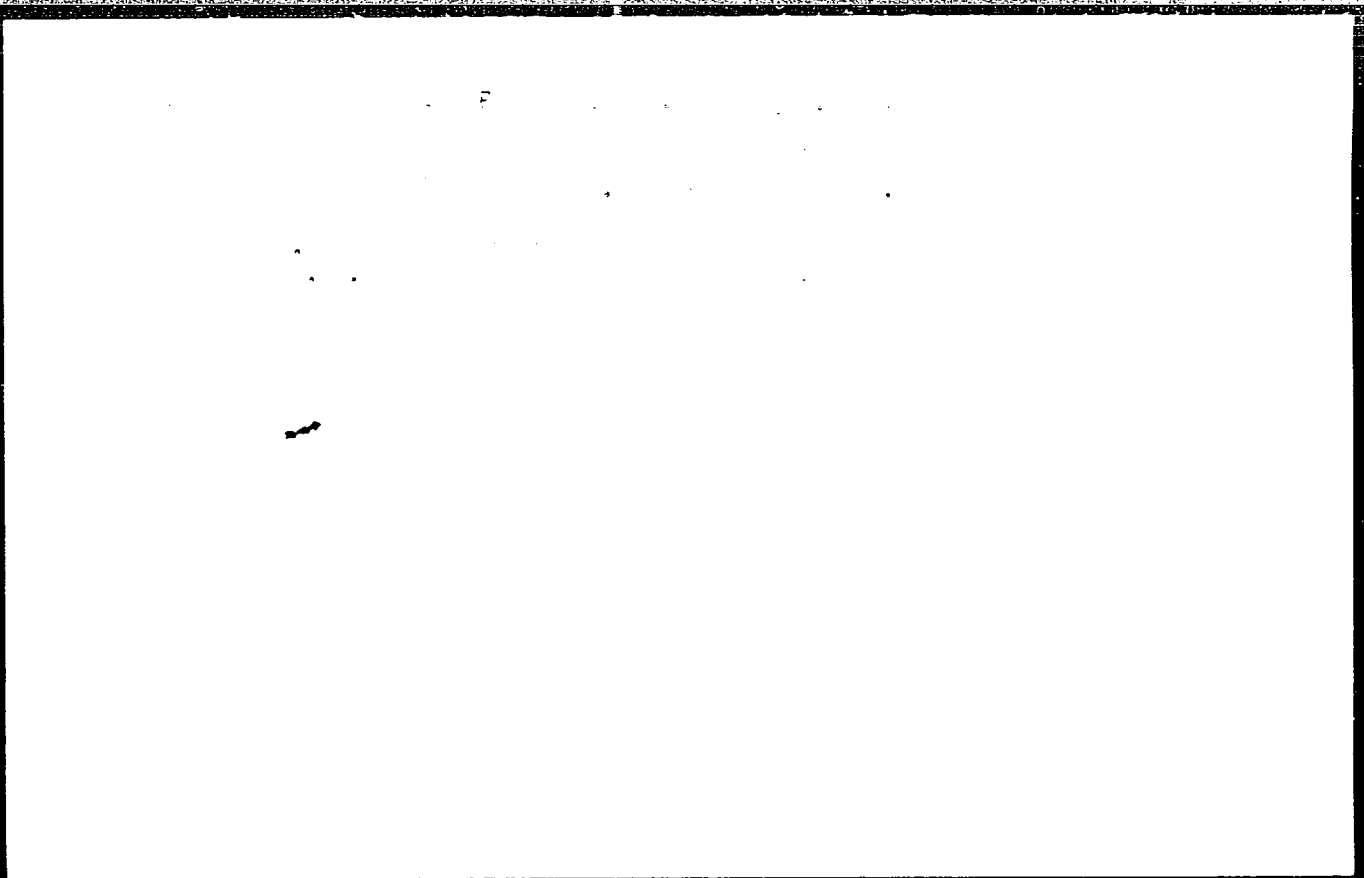
1. "Petru Poni" Institute of Chemistry of the Rumanian Academy,
Bucharest, 11 A Aleea Tricolorului Voda.

DIACONESCU, Cornelia; NICULESCU-PIN A, D.; MATEI, I.

Uptake in vitro of radioactive triiodothyronine in resins
as a thyroid function test. Stud. cercet. endocr. 15 no.2:
147-154 '64.

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CIA-RDP86-00513R001032820009-6"

BADARAU, E., acad.; GRUMAZESCU, M.; MATEI, L.

A correlation between the sound absorption coefficients measured in an impedance tube, or in a diffused field. Studii cerc fiz 12 no.3: 681-691 '61.

1. Institutul de fizica, Bucuresti. 2. Membru al Comitetului de redactie, "Studii si cercetari de fizica" (for Badarau).

(Absorption of sound)

STAN, Aurelian, conf.ing.; GRUMAZESCU, Miros, ing.; MATEI, Liviu

Noise reduction by means of carcasses. Metalurgia constr mas
14 no.1:78-84 Ja '62.

1. Comisia de Acustica a Academiei R.P.R.

L 01071-66 EWT(1)/T/EEG(b)-2 IJP(c) GO

ACCESSION NR: AP5009591

GE/0030/65/009/001/0055/0062

AUTHOR: Topa, V.; Matel, L.; Serban, T. ^{21, 55}

TITLE: New exciton bands in KI:Na crystals containing A-centers

SOURCE: Physica status solidi, v. 9, no. 1, 1965, 55-62

TOPIC TAGS: exciton, exciton band, impurity center, potassium iodide crystal, single crystal, potassium iodide, sodium doped crystal

ABSTRACT: Type A-centers are found in KI:Na single crystals. The conversion $F \rightarrow A$ is followed in the visible region and near the fundamental absorption edge. The intensity of the β -band decreases with the formation of A-centers and at the same time a new band (β_A) is formed at longer wavelengths. The disappearance of A-centers results in a broad A_0 -band in the visible region which is accompanied by the formation of an α_A -band in the ultraviolet region, at wavelengths shorter than those corresponding to the α -band. As the intensities of the A_1 - and β_A -bands are proportional the occurrence of the β_A - and α_A -bands can be explained qualitatively by exciton formation near A-centers or vacancies which are due to negative ions with a Na ion as nearest neighbor. The authors would like to thank Prof. Tarjan.

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L 01071-66

ACCESSION NR: AP5009591

for his helpful discussions on the occasion of presenting this work at the Conference of Solid State Physics, Bucharest, November 1964." Orig. art. has: 7 figures. 4

ASSOCIATION: Institute of Physics, Bucharest 55

SUBMITTED: 04 Jan 65

ENGL: 00

SUB CODE: SS

NO REF SOV: 000

OTHER: 012

Card 2/2 JP/

L 49210-65

ACCESSION NR: AP5015372

RU/0018/64/000/003/0420/0423

AUTHOR: Stan, Aurelian; Grumazescu, Mircea; Matei, Liviu; Harastasanu, Emil

TITLE: Methods for the control of noise in Rumanian inland ships

SOURCE: Constructia de masini, no. 8, 1964, 420-423

TOPIC TAGS: acoustic noise, inland vessel data, mechanical engineering

Abstract [Authors' English summary modified]: A description of the methods used by Rumanian designers to reduce the noise levels of the engines in inland ships, and a summary of the

measured noise values and reductions obtained by the various methods. Orig. art. has 1 figure, 4 graphs, and 3 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: GP, IE

NO REF. SOV: 000

OTHER: 004

JPRS

Card 1/1 *NY*

RUMANIA

G. MARINESCU, G. BALMUS and N. MATEI, Institute of Inframicrobiology of Rumanian Academy of Sciences (Institutul de Inframicrobiologie al Academiei RPR,) [Bucharest.]

"Incidence of Antibodies to Pararickettsia Among the Population."

Bucharest, Studii si cercetari de intramicrobiologie, Vol 14, No 3, 1963; pp 321-327.

Abstract [English summary modified]: Complement fixation and slide microagglutination tests for antibodies to pararickettsiae. Among 100 schoolchildren there were 2++, 2+; 70 soldiers 7,6; 179 staff of veterinary sera-vaccine plant 69,53; 18 employees of Farm A 4,5; 42 of Farm B 30,17; 103 slaughterhouse workers 38,25. Significance of high incidence in persons having contact with animals is stressed. Two tables, 13 Western, 2 Czech, 1 Soviet and 13 Rumanian references.

1/1

MATEI, N., asistent

Observation on some problems of geometric place. Gaz mat 112
69 no.11:421-430 N '64.

1. Bucharest University.

MURGEANU, G., acad.; STEFANESCU, M.; AVRAK, E.; MATEI, V.; ZONEA, P. M.;
BUTNAREANU, I.

Nature of the appearances of crystalline schists in the Zargara
Prislop region. Studii cerc geol geof geogr (Bucharest) 1964, 1, 1.

1. Geological Committee and the Enterprise of Geological and
Laboratories. Submitted April 24, 1964.

BURLACU, Gh.; MATEI-VLADESCU, Constanta

Studies on the variation of the specific dynamic action of food depending on the quantity of food eaten by animals. Studii cerc biol anim 15 no.2:171-185 '63.

1. Comunicare prezentata de V. Ghetie.

BURLACU, Gh.; MATEI-VLADESCU, Constanta; MOTELICA, I.

Research on the specific dynamic action of some amino acids
administered separately to birds. Studii cerc biol s. zool
16 no. 3:219-237 '64.

1. Laboratory of Animal Physiology, "Traian Savulescu" Institute
of Biology.

MATEL. , Constanta

Research on the endocrine metabolism regulation in Amphibia.
Studii care biol. 16 no.5:421-432 '64.

1. Laboratory of Animal Physiology, "Traian Savulescu" Institute
of Biology.

MATTEL-VI-1, (Continued); RDP-1, 1.

Letter of Appreciation for the work of the
Research Center, 1961-1965, 1966-1967.

Letter of Appreciation for the work of the
Institute of Biology.

SURNAME, Given Names

Country: Rumania

Academic Degrees: -not given-

Affiliation: *)

Source: Timisoara, Timisoara Medicala, Vol VI, No 1, Jan-Jun 1961, pp 33-37.

Data: "Reanimation in Terminal Collapse State With Transfusions of
Oxygenated Blood Through Artificial Heart-Lungs."

Authors:

MANDACHE, F.

MATEESCU, D.

PRODESCU, V.

KOVER, Gh.

ROSCA, S.

CIOPALA, E.

MATEICA, Monica

CONSTANTINESCU, S.

LUTESCU, I.

CANTARGIU, Sofia

TANCIU, I.

*) Work performed at the Surgical Clinic of "Brincovenesc" Hospital
(Clinica de Chirurgie a Spitalului "Brincovenesc"), Director: F.
MANDACHE.

GPO 9816-3

DRAGOMIRESCU, D.; APOSTOLESU, St.; MATEICIUC, V.; BESLIU, M.

Totally effective section of arsenic for the neutrons in the energy
range of 0,01 - 0,1 eV. Studii cerc fiz 11 no.1:77-81 '60. (EBAI 10:1)
(Neutrons) (Arsenic) (Spectrometer)

APOSTOLESCU, S.; CONSTANTINESCU, M.; DOBRESCU, S.; IVANCEANU, I.;
MATEICIUC, V.

Neutron total effective section of arsenic in the field of
0,05-40 eV energies. Studii cerc fiz 15 no. 2:155-160
'64.

1. Institute of Atomic Physics, Bucharest.

R/008/62/013/006/005/008
A065/A126

AUTHORS: Chişu, A., Maroş, D., Albu, T., Hulpe, G., Mateişanu, D., Daly, A., Szabo, A.

TITLE: Contributions to the investigation of the wear of gears by means of radioactive isotopes

PERIODICAL: Studii şi cercetări de mecanică aplicată, v. 13, no. 6, 1962, 1,549 - 1,555

TEXT: A Co⁶⁰ bolt, 3 mm long and 1 mm in diameter, was introduced into the tooth-face of a gear of globular pearlite cast iron, while the gear was then subjected to a long-period test in a universal gear testing machine provided with a closed circuit lubrication and a Geiger-Müller counter. The radioactive particles, retained together with the wear dust by the oil filter, were detected by the Geiger-Müller counter, whereas the impulses were counted in 1/2-hour intervals. The qualitative wear curves, traced on the basis of this method, show the evolution of the wear depending on time and load. Presented are then the calibration process used for the qualitative estimation of the wear, as well as the

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Contributions to the investigation of

R/008/62/C13/006/005/006
A065/A126

calculation of the wear of the tested gear. The precision of these measurements is limited by the statistic character of the radioactive disintegration. In the case of the conducted experiments, the statistic error varied between $\pm 2\%$ and $\pm 5\%$. These preliminary experiments compiled in a table present the result of the wear test, depending on time and load. The tests conducted by the Institutul politehnic (Polytechnical Institute) in Cluj, the Laboratorul de radioizotopi, Institutul de fizică atomică (Laboratory of Radioisotopes, Institute of Nuclear Physics) in Cluj, and the Uzinele "1 Mai" ("1 Mai" Plant) in Ploiești, will be continued. There are 4 figures.

ASSOCIATIONS: Institutul politehnic (Polytechnical Institute) in Cluj (Chișu, Maroș, Albu, Hulpe, Mateișanu, and Daly); Institutul de fizică atomică (Institute of Nuclear Physics) in Cluj (Szabo)

SUBMITTED: June 16, 1962

Card 2/2

M. TLISSE, E.

Reorganization of the Moldavian petroleum industry after August 23, 1944.
p. 33

PETROL SI GAZE. (Asociatia Stiintifică a Inginerilor si Tehnicienilor din
Romania si Ministerul Industriei Petrolului si Chimiei) Bucuresti Romania
Vol.10 no.8 July 1959

Monthly list of East European Accessions (EEAI) LC Vol.9, no.2 Feb. 1960

Uncl.

MATEIU, .D

The micromodel M.D. 125. p. 13.
(Aripile Patriei, Vol. 3, No. 1. Jan. 1957, Bucuresti, Rumania)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol 6, No.8, Aug 1957. Uncl.

MATEIU, Vasile (Bucuresti)

Zanzibar. Natura Geografie 15 no.5:74-75 S-O '63.

AVRAM, E. MATES, V.

New paleontologic data on the Mesozoic Flysch in the northeastern part of the Dobruja Valley Basin. Studii cerc geol geof geogr 9 no.1:321-327 1964.

1. Geologic Committee attached to the Romanian Council of Ministers. Submitted April 23, 1964.

GODLEWSKA, A.; MATEJ, H.

Immaturity of blood group antigens in the newborn and its
practical significance. Polski tygod. lek. 6 nos.25-26:821-823
25 June 1951. (CIML 21:1)

1. Of the Research Center of the Pathology of Pregnancy, Wroclaw.

Matej, H.

GODLEWSKA, A.; MATEJ, H.

Studies on blood groups development in extruterine life.
Med. dosw. mikrob., Warsz. 4 no. 3:343-344 1952. (CML 23:3)

1. Summary of work progress presented at 11th Congress of Polish
Microbiologists held in Krakow May 1951. 2. Wroclaw.

MILGROM, P.;CZYZEWSKI, K.;FALKIEWICZ, A.;NICEWICZOWNA, M.;MATEJ, H.;TOKARZ, P.

Studies on immunology of grafts. Polski tygod. lek. 8 no.24:841-846
15 June 1953. (CML 25:1)

1. Of the Institute of Microbiology (Head--Prof. L. Hirszfeld, M.D.),
of the First Surgical Clinic (Head--Docent K. Czyzewski, M.D.) and the
Second Internal Clinic (Head--Prof. K. Falkiewicz, M.D.), Wroclaw Medical
Academy.

MILGROM, Feliks; WICHER, Konrad; MATEJ, Henryk; ROGALA, Danuta

Studies on the nature on Wassermann's antibodies. Przegl.
derm., Warsz. 6 no.5:391-396 Sept-Oct 56.

1. Z Zakladu Mikrobiologii Slaskiej A.M. w Zabrze-Rokitnicy
Dyrektor: prof. dr. F. Milgrom. Zabrze-Rokitnica, Zaklad
Mikrobiologii Slaskiej Akademii Medycznej, ul. Karola Marksa
19.

(WASSERMANN REACTION,
Wassermann's antibodies (Pol))

KALUZEWSKI, Stanislaw; MATEJ, Henryk

Results of the administration of butazolidin in experimental
murine typhus. Postepy hig.med.dosw. 13 no.5:659-663 '59.

(PHENYLBUTAZONE pharmacol.)

(TYPHUS MURINE exper.)

MATEJ, Henryk

Fluorescent antibodies. Postepy hig. med. dosw. 15 no.5:463-482
'61.

1. Z Zakladu Grup Krwi Instytutu Immunologii i Terapii Doswiadczalnej
im. L.Hirszfelda we Wroclawiu Kierownik: prof. dr B.Popielski.
(ANTIBODIES)

MATEJ, Henryk

Progress in immunohematology. Pol. med. wewn. 32 no.7:777-786
'62.

1. Z Zakladu Grup Krwi Instytutu Immunologii i Terapii Doświadczalnej
PAN im. L. Hirszfelda we Wrocławiu Kierownik: prof. dr med. B. Popielski.
(BLOOD TRANSFUSION) (BLOOD GROUP INCOMPATIBILITY)
(ANEMIA HEMOLYTIC)

MATEJ, Jiri, inz.

Acid etching of mat glass. Sklar a keramik 12 no.3:67-71
Mr '62.

1. Katedra technologie silikatu, Vysoka skola chemicko-
technologicka, Praha.

HLAVAC, Jan; MATEJ, Jiri

Mechanism and kinetics of siliceous glass decomposition by aqueous solutions. Silikaty 7 no.4:261-269 '63.

1. Vysoka skola chemicko-technologicka, Praha.

MATEJ, RAKOS

CZECHOSLOVAKIA / Magnetism. Experimental Methods of Magnetism. F-2

Abs Jour : Ref Zhur - Fizika, No 3, 1957, 6834

Author : Rakos Matej

Title : Construction of a Koepsel Instrument for the Measurement of
the Coercive Force of Ferromagnetic Materials.

Orig Pub : Techn. praca, 1956, 8, No 3, 124 - 126

Abstract : No abstract.

Card : 1/1

5.2630

24.2200

67018

CZECH/37-59-4-5/16

AUTHOR: Matej RákošTITLE: Magnetic Properties of Solid Solutions of some Ionic CompoundsPERIODICAL: Československý Časopis Pro Fysiku, 1959, Nr 4,
pp 368-376

ABSTRACT: Bhatnagara and Kapura (Ref 5) found that the magnetic susceptibility of ionic mixtures, for some compounds, follows Wiedeman's additive law (Refs 6,7) over the whole range of concentrations. Other compounds showed deviations from the additive law. Similar deviations from linearity were studied in aqueous solutions of some salts and in some glasses (Refs 8, 12). The measurements were carried out by comparing the susceptibility of the samples with that of distilled water (Refs 16, 13, 17). The samples were either a mechanical mixture or fused. The temperature was always room temperature. Fig 1, curve (a), shows the dependence of the molar susceptibility on the molar concentration of KI in a mechanical mixture with KBr (crosses) and in fused samples of such mixtures (circles). Fig 1 curve (b) shows the equilibrium diagram of KI and KBr. Fig 2 shows the same

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CZECH/37-59-4.5/16

Magnetic Properties of Solid Solutions of some Ionic Compounds

curves for the pair NaCl and KBr. All the ionic crystals studied are diamagnetic. The use of Langevin's classical theory of diamagnetism led to a not very successful interpretation of the difference in susceptibility of a mechanical mixture and a solid solution by several authors (Refs 10, 12). On the other hand, Dorfman (Ref 24) expressed the opinion that Bhatnagara and Kapura's results were due to paramagnetism, screened by diamagnetism. For a full interpretation of the here-described results, both these aspects must be considered. The susceptibility of a solid solution (Eq (13)) depends on the distribution of the density of electrons around the nuclei, on the quantum states of the ions and on the energy levels connected with these states. This is in good agreement with our results. These have shown a change in the ionic radii and a maximum deviation of the susceptibility from linearity at the same concentrations at which the freezing point was a minimum. X-ray investigations have shown that at these concentrations, maximum chaos in the ionic arrangement exists. ✓

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67018

CZECH/37-59-4-5/16

Magnetic Properties of Solid Solutions of some Ionic Compounds

There are 4 figures and 27 references, of which 7 are German, 11 English, 8 Czech and 1 Soviet.

ASSOCIATION: Katedra fyziky Vysokej školy technickej v Košiciach
(Chair of Physics, Technical University, Kosice)

SUBMITTED: October 29, 1958

Card 3/3

PETRIE, Miroslav; KOSMAK, Ivan; ENDRYŠ, Jiri; BELOHRADEK, Zdenek;
MATEJA, Frantisek.

Congenital isolated pulmonary insufficiency. Sborn.ved.prac.
lek.fak.Karlov.Univ.(Hrad.Kral.) 6 no.3:319-323 '63.

I. I. interni klinika (prednosta: prof., MUDr. F.Cernik);
II.interni klinika (prednosta: prof., MUDr. V.Jurkovic)
a Chirurgicka klinika (prednosta: prof., MUDr.J.Prochazka),
Universita Karlova.

*

MATEJA, Frantisek; KOSTELNIK, Josef, MUDr.; JANIUREK, Leopold, MUDr.;
VANASEK, Jaroslav

A case of Waldenstrom's macroglobulinemia with massive cryoglobulinemia. Sborn. ved. prac. lek. fak. Karlov. Univ. 7
no.5:749-756 '64.

1. II. interni klinika (prednosta: prof. MUDr. V. Jurkovic, DrSc.); Patologicko-anatomicke oddeleni nemocnice Litomysl, Obvodniho ustava narodniho zdravi Svitavy; (prednosta: MUDr. J. Kostelnik); Interni oddeleni nemocnice Obvodniho ustava narodniho zdravi Svitavy (prednosta: MUDr. L. Janiurek).

MAZAK, Jaroslav; VANASEK, Jaroslav; MATEJA, Frantisek. Technicke spo-
lprace: MICHALCOVA, V.; PROUZOVA, H.; KLAZAROVA, M.

Blood coagulation findings in experimentally burned dogs.
Sborn. ved. pr. lek. fak. Karlov. Univ. 7 no.5:777-789
1964.

1. 11. Interni klinika a patofyziologie vnitroho lekarstvi
(prednsta: prof. Dr. V. Jurek, Dr. B.).

ROZSIVALOVA, Vera; MATEJKA, Frantisek

Blood proteins in blisterous dermatoses. Sborn. ved. 1960, 1961
fak. Karlov. univ.: Suppl. 8 no.41:451-454 '61.

1. Kozni klinika (prednosta prof. MUDr. H. Janoušek) a 2. Kozni
klinika (prednosta prof. MUDr. J. Jarkovský).

Geriatrics

CZECHOSLOVAKIA

UDC 577.15(:616.002.77):616-053-9

HRNCIR, Z.; DVORAK, K.; MATEJA, F.; 2nd Internal Clinic, Med. Fac. Charles University (II. Interni Klinika Lek. Fak. KU), Hradec Kralove, Chief (Prednosta) Prof Dr V. JURKOVIC; Radiological Clinic, Med. Fac. Charles University (Radiologicka Klinika Lek. Fak. KU), Hradec Kralove, Chief (Prednosta) Prof Dr J. BASTECKY

"Clinical Importance of the Rheumatoid Factor in Old Age."

Prague, Casopis Lekarů Ceských, Vol 106, No 10, 10 Mar 67, pp 257-263

Abstract [Authors' English summary modified]: Serum rheumatoid factor was examined in subjects above 65 years old by means of the latex-fixation test. In 9.33%, the findings were positive with a diagnostic factor 1:160 or more, while in younger people the findings were only 5.33%. The number of positive findings reaches a maximum at the ages of 70 - 74 years. In 47% of the positive findings other diseases usually combined with rheumatism were found. In 35.7% it was hepatopathies. Higher incidence of the rheumatoid factor in old age is probably due to progressive polyarthrititis or another collagenosis. 4 Figures, 3 Tables, 27 Western, 9 Czech references. (Manuscript received Jan 66).

CELO SLOVENSKO

VANASEN, J; SMID, A; HAZAK, J; MATSUDA, F; NERUDA, O; PACHARSKA, J.

1. Military Research and Premedicine Institute JMF (Vojensky lecarsky vyzkumny a docikovaci ustav JMF), Hradec Kralove; 2. Second Internal Medicine Clinic LF KU (II. vnitni klinika LF KU), Hradec Kralove; Central Biochemical Laboratory KUNZ of the Faculty Hospital (Ustredni biochemicka laborator KUNZ- Fakultni nemocnice), Hradec Kralove

Hradec, Vnitni lékařství, No 11, 1963, pp 1073-1080

"Contribution to the Assessment of the Evolution of Haemochromatosis."

MAZAK, J.; VANASEK, J.; MATEJA, F.

Changes in blood clotting and fibrinolysis in burnt dogs and the effect of dextran. Acta chir. plast. (Praha) 7 no.4:257-264 '65.

1. Department of War Medicine, Military Medical Research and Postgraduate Institute Second Medical Clinic, Faculty of Medicine, Charles University, Hradec Kralove, Czechoslovakia (Director: Prof. Vilo Jurkovic, M.D.).

MATEJA, Oswald (Gliwice)

Stability of permanent cylindrical frame scaffolds. Archiw inz
lad 8 no.3:375-389 '62.

MATEJA, Oswald, mgr inz.

Some remarks concerning the stability of cooling towers. Inz i
bud 19 no.11:437-438 N '62.

1. Politechnika, Gliwice.

MATEJA, Oswald

A certain variation method of statistical stability. Budown
Gliwice no. 9:17-23 '63.

1. Katedra Budowli Podziemnych, Politechnika, Gliwice.

MATEJA, Oswald

The Kronecker-Capelli theorem as an additional criterium of statistical stability. Budown Gliwice no. 9:45-53 '63.

1. Katedra Budowli Podziemnych, Politechnika, Glwice.

MATEJA, Oswald, mgr inz.; ZARZYCKI, Lech, art. plast (Gliwice)

A method of modeling thin shells. Inz i bud 20 no.12:488-489
D '63.

1. Politechnika Slaska, Gliwice (for Mateja).

MATEJAK, L., mgr inz.; BARTELAK, M., mgr; SOSNA, J., mgr; KLOBUKOWSKI, J.,
mgr inz.; ZUKOWSKI, J., mgr

Sanitary state of the Wilga River. Gaz woda techn sanit 37
no.11:350-352 N '63.

MATEJCEK, J.

BOBEK, Karel; CEPRIAK, Vaclav; MATEJCEK, Jan

Effective help in the fight against puerperal thrombosis. Cesk. gyn.
23[37] no.5:337-343 July 58.

1. Klin. chor. vnitr., prednosta prof. dr. K. Bobek, a gyn. por. klin.
v Plzni, prednosta prof. dr. Vl. Mikolas. K. B., klin. chor. vnitrnich,
Plzen, Marxova 13.

(PUERPERIUM, complications
thrombosis, diag. & ther. (Cz))

(THROMBOSIS,
in puerperium, diag. & ther. (Cz))

MIKOLAS, Vladimir; MATEJCEK, Jan

Comments on the prevention and therapy of imminent eclampsia and developed eclampsia. Cesk. gyn. 23[37] no.5:348-355 July 58.

1. Por. gyn. klin. v Plzni, prednosta prof. Dr. Vl. Mikolas.
(ECLAMPSIA,
prev. & ther. (Cz))

ROBEK, K.; ČEPELÁK, V. [Čepelák, V.]; ~~MATEJČEK, I.~~ [Matejček, J.]

Control of the thromboembolic disease in obstetric and gynecological practice. Akush.i gin. 35 no.4:17-27 J1-Ag '59. (MIRA 12:11)

1. Iz terapevticheskoy kliniki (zav. - prof. K. Bobek) i akushersko-ginekologicheskoy kliniki (zav. - prof. V. Mikolash) meditsinskogo fakul'teta Karlova universiteta (Chekhoslovakiya).

(THROMBOEMBOLISM prev. & control)

(GYNECOLOGICAL DISEASES compl.)

(PREGNANCY compl.)

(LABOR, compl.)

MATEJCEK, Jan

Methods used in the application of general anesthesia in our maternity homes and proposed prevention of aspirations. Cesk.gyn. 25[39] no.5:387-391 Je '60.

1. Gyn. por. klin. FU v Plzni, prednosta prof. dr. Vladimir Mikolas
(ANESTHESIA OBSTETRICAL compl)

CZECHOSLOVAKIA

MATEJCEK, J; PACESOVA, L.

Institute for Inorganic Chemistry, Karlova University (Institut
für anorganische Chemie, Karlsuniversität), Prague - (for both)

Prague, Collection of Czechoslovak Chemical Communications, No 1,
January 1966, pp 190-198

"Analysis of thermic disintegration of $\text{Al}(\text{JO}_4)_3 \cdot 12\text{H}_2\text{O}$."

MATEJCEK, Zdenek

Psychological aspects & therapy of dyslexia. Cesk. psychiat. 55 no.1:
23-30 Feb 59.

1. Detska psychiatricka poradna, Praha 2, Vratislavova 11.
(READING
dyslexia in Czech. child., psychol. & ther. (Cz))

MATEJCEK, Z.

Investigations of the mental development of children aged 1 to 3 years in children's homes. Cesk.pediat. 15 no.3:234-241 Mr '60.

1. Detaka psychiatricka poradna, Dittrichova 17, Praha 2, vedouci
lekar MUDr. Otakar Kucera.

(MENTAL PROCESSES in infancy & childhood)

MATEJCEK, Z.

Academic failures among some normal children. Cesk. pediat. 16 no.10:
877-882 0 '61.

1. Psychiatricka ambulance pro deti a mladistve KUNZ Praha, ved. lekar
MUDr. O. Kucera.

(CHILD PSYCHOLOGY) (SCHOOLS)

MATEJCEK, Zdenek

Studies on mental development of children institutionalized in pediatric psychiatric service institutions in the Central Bohemian Region. Cesk. pediat. 17 no.7/8:621-627 Ag '62.

1. Psychiatricka poradna pro deti a mladistve, vedouci lekar MUDr. Otakar Kucera.

(CHILD PSYCHIATRY)

MATEJCEK, Z.

On the problem of adoption. Cesk. pediat. 18 no.9:842--846
S '63.

1. Psychiatricka poradna pro deti a mladistve v Praze 2,
vedouci MUDr. O. Kucera.
(ADOPTION) (PSYCHOLOGICAL TESTS)

MATEJCEK, Z.; DOUTLIK, S.; JANDA, V.

Analysis of neuropsychiatric findings in children after para-infectious encephalitis. Cesk. psychiat. 59 no.6:367-376 D'63.

1. Psychiatrická poradna pro děti a mládež KUNZ Středoceskeho kraje, Praha; Laborator pro výzkum infekčních nemocí fakulty dětského lékařství KU, Praha, a Neurologická klinika lékařské fakulty hygienické KU, Praha.

*

MATEJCEK, Z.

Psychological examination of children in homes with improved practices in child-rearing. Cesk. pediat. 19 no.1:21-25 Ja'64.

1. Psychiatricka poradna pro deti a mladistve KUNZ Stredo-ceskeho kraje v Praze; vedouci: lekar MUDr. O.Kucera.

*

MATEJCEK, Z.

On developmental dyslexia. Cesk. pediat. 20 no.8:720-724
Ag '65.

1. Psychiatricka poradna pro deti a mladistve Krajskeho
ustavu narodniho zdravi Stredoceskeho kraje v Praze
(vedouci lekar MUDr. P. Vodak).

PEROVIC, D.; MATEJCIC, M.

A diverticulum with concretions of the female urethra. Acta chir.
iugosl. 7(8) no.3:253-257 '60.

1. Ginekolosko-obstetricki odjel (sef doc. dr. D.Perovic) i
Rentgen zavod (sef dr. M.Matejcic) Opce bolnice Susak, Medicinski
fakultet u Rijeci
(URETHRA dis)

PAVLOVIC, P.; MARIN, S.; MATEJCIC, M.

Palliative treatment of bronchial carcinoma. Tuberkulosa 17 no.1/2:
173-176 Ja-Apr'65.

1. Iz odjela za radioterapiju, opće bolnice Šebel, Rijeka;
iz bolnice za tuberkulozu pluća, Ičići; iz rendgen savoda,
opće bolnice Kucic, Rijeka.

YUGOSLAVIA

Dr. Mirko L. KOVIC, Dr. Vladimir RUSTIC and Dr. Marijan M. TEJCIC,
Department of Surgery of Hospital (Kirurški odjel Bolnice) "Braca Dr
Sobol", Rijeka, and Department of Radiology of Hospital (Rentgeno-
loski odjel Bolnice) "Dr Zdravko Kucic", Susak.

"Malignant Degeneration of the Gastric Ulcer."

Belgrade, Medicinski Glasnik, Vol 17, No 2, Feb 63; pp 57-62.

Abstract : Essentially polemical paper contending that gastric cancer
is frequently preceded by inflammatory and ulcerative symptoms and that
this fact is ignored by internists who release such patients after
brief stay in hospital leads to minor improvement in the acute signs.
Later, mutilatory surgery is required. Literature review, discussion
of diagnostic points; data on 491 patients treated during last 10
years; 13.4% of the initial gastric ulcers eventually ended up with
gastric carcinoma.

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MARIN, S., dr.; FRANCISKOVIC, V., dr.; MATEJCIC, M., dr.

Role of the general practitioner in the early detection of
bronchial carcinoma. Med.Glas,17 no.11/12:433-438 N-D '63.

1. Bolnica za tuberkulozu pluca Icici, Kirursko i Rendgensko
odjeljenje Opce bolnice "Dr Z. Kucic", Rijeka.

1. NATURAL HISTORY

2. The following information was obtained from a review of the literature on the subject of the natural history of the area.

3. The following information was obtained from a review of the literature on the subject of the natural history of the area.

1.2300

SLOV/006/60/000/001/002/002
D216/D306

AUTHOR: Matejec, Michal, Engineer

TITLE: Gas-shielded electric-arc cutting of metals difficult
to cut

PERIODICAL: Zváračský sborník, no. 1, 1960, 71-80

TEXT: The Výzkumný ústav zváračský (Welding Research Institute) in Bratislava developed a new method of gas-shielded arc cutting utilizing the effect of plasma which forms in the inner cone of the arc when argon-hydrogen or nitrogen-hydrogen mixture is used for shielding. The arc burns between a tungsten electrode and the work. Two-atom gas molecules dissociate and become ionized in the center of the arc, while the remaining portion of the gas stream forms the envelope. Upon contact with the metal, the dissociated atoms recombine to original molecules in the marginal and bottom portions of the plasma cone. This transformation is accompanied by intense heat which rapidly melts the metal thus forming a kerf. The kerf width depends on the diameter of the nozzle, distance of the torch from the work, pressure and quantity of gas, y
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Gas-shielded electric-arc...

and other factors. By local heating of the work, temperatures of 4000-6000°C are obtained so that this method can be used to cut even the highest-melting metals and their oxides. For optimum cutting properties, the arc should have the following characteristic features: (1) It should be narrow and its heat value high; (2) Voltage and current of the arc should be proportionate to the work thickness; (3) A part of the heat originating at the electrode and in the upper part of the arc has to be transmitted by the gas stream to the work; (4) The speed of the gas stream both in the plasma cone and in the envelope should be sufficiently high to blow away the liquid metal from the kerf so as to obtain clean, smooth faces. The arc voltage increases slightly with the increasing amount of argon in the gas stream. It increases more sharply under the influence of the hydrogen or nitrogen dissociation and can reach 60-90 v. It can be further increased by increasing the output of the power supply, but voltages above 100-110 v would create hazardous conditions at the working site. Results of the research into the electro-physical conditions prevailing during gas-shielded arc

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Gas-shielded electric-arc...

SLOV/006/60/000/001/002/002
D216/D306

cutting were later utilized in tests with plasma torches. These have modified arc chambers and produce temperatures at which all known metals, oxides and carbides evaporate. The use of the plasma process for metal cutting would, therefore, require a modification of the torch, but it is especially suitable for metal spraying and production of parts with very thin and strong walls. Based on the results of this research a prototype of a torch and of a cutting machine, designated VUS-arg ORS, were built at the Welding Research Institute. The torch was so designed that it can be used with existing cutting machines. A "Mikron" RSO semi-automatic cutting machine, in which the oxygen torch was replaced by the new torch, is being tested. The kerf faces obtained by the new method were also closely investigated, especially regarding the possible diffusion of hydrogen into the face surface. Two different types of aluminum samples, both 5 mm thick, were prepared: One with faces obtained by gas-shielded arc cutting, the other with planed faces. The samples were automatically welded and subjected to pulling and bending tests. The strength of the welds was identical with both types and was so high that the eventual failure occurred in

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SLOV/006/60/000/001/002/002
D216/D306

Gas-shielded electric-arc...

the base material, but not in the welds. In pulling tests with 15-mm thick, manually welded samples, the failure occurred in both types in the center of the weld. Bending tests of these samples did not damage the welds. Macroscopic and microscopic investigation of kerf faces in aluminum samples revealed no fused-on or heat-affected zones. In copper samples, fused-on zone was found in the lower part of the kerf face in a width ranging from 0.005 to 0.5 mm. Also small pores were observed beneath the surface of the face, whose depth increased towards the lower edge of the face from 0.03 to 0.1 mm. Clad materials showed a fused-on zone of 0.3-0.9 mm and a heat-affected zone up to 1.5 mm. The torch can be used for straightline, curved, or beveled cuts. It can cut aluminum up to a thickness of 35 mm, and copper or stainless steel up to 25 mm. For larger thicknesses the torch would have to be modified and larger power supplies used. Several Praga 500 power supplies can be used in series parallel connection for cutting large thicknesses. The cutting speed depends mostly on the material thickness. Fig 11 shows the speed-versus-thickness curve of aluminum plates for the following cutting conditions:

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